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ABSTRACT

This report examines some school district characteristics as predictors of Federal aid applications. In the elementary school districts of one northern California county, the author tested hypotheses that applications for Federal aid were functions of (1) the school district awareness of Federal aid programs, (2) the rate of growth and financial needs of a school district, (3) the school district capability to write applications for Federal aid, and (4) the amount of internal conflict and personnel turnover in a district. (JF)

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ARE SCHOOL DISTRICT APPLICATIONS FOR FEDERAL AID PREDICTABLE?

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Recently, trends in evaluating federal aid have turned to examining school districts to find out why they apply for federal aid. The studies are inconclusive as yet, but one of the emerging characteristics seems to be the size of the school district. [1]One very prominent national study of NDEA underscored that large districts got more benefits from NDEA than small districts. [2]Johnson also found that more large urban and suburban districts in California were receiving funds under NDEA Title III than small rural districts.

The variable of school district size also seems to predict participation in other federal programs as well. The Department of Rural Education of the NEA[3] found that size predicted participation in ESEA Title III. They noted that small, rural districts were generally excluded from participation in regional centers for innovation. Interestingly, when the federal government [4] conducted another separate study of Title III, the conclusion was the same. Small districts were noticeably absent from participation, hence, district size predicted which districts did not participate under that federal enactment. However, the variable of district size is more complicated, and other district characteristics like the availability of time and project writers also appear to influence a district's federal participation.

When ESEA was enacted in 1965, Wilson Riles[5], the present State Superintendent of Public Instruction in California undertook a study to find out why 231 districts did not apply for Title I funds when they were fully qualified. Superintendents in these districts reported both logical and non-logical reasons for not making applications. Some said they were not qualified to apply, while others reported they did not have the time to apply. Still others said that they did not apply because their school boards opposed federal aid.

The inconsistency and subjectivism which is apparent in these studies supports the need to examine further school district characteristics as predictors of federal aid applications. The greatest need is to draw the information together to develop some theoretical frame that will allow both state

and federal agencies to predict in advance which districts would make applications for new forms of federal aid.

SCHOOL DISTRICT AS AN ORGANISMIC SYSTEM

Getzels study [6] of school organization, advanced the hypothesis that school district actions are related to the stimulus-response (s-r) chain of association learning. Federal aid enactments, analogous to stimuli, reach the school district, and the school district chooses either to respond by applying or not applying. However, Getzels also found that the s-r model was too simple for explaining all school district actions.

Another study[7] of behavior suggested that a response to stimuli in a complicated organism was made on the basis of awareness of the stimuli, needs of the organism, capability to make the response, and conflict caused by the response. Inferring that these same constructs could account for school district applications for federal aid meant that a change in the behavioral framework was required. The major problem was to clarify the underlying assumptions that would allow the s-r model to explain the more complicated response of the school district.

To accomplish this, the first major assumption is that the school district resembles a biological system composed of subsystems of governance, finance, education, transportation, food service, and public relations. Each subsystem operates almost as a separate and distinct entity except in matters when the basic survival of the school district is at stake. During these critical times, there is more unity and cooperation evident.

The second basic assumption is that federal aid applications affect only the school district's financial subsystem. It may be true that the district action for federal aid would affect the other subsystems such as the governance subsystem and the educational subsystem; however, for this study district response is examined as an isolated process of the financial subsystem. Within this process, the motive of the school district is assumed to be the seeking or re-

jecting of federal funds. Given these assumptions, it is possible to operationalize these constructs.

OPERATIONALIZING THE THEORY

School district awareness of federal aid is defined as having cognizance of federal aid enactments. Awareness is the school district efforts in receiving and seeking information about federal aid. With this definition, awareness is measured by asking a chief school officer about the number of sources of information about federal aid used in his district. To gather this data, eight different sources of federal aid information ranging from being on a regular mailing list to having meetings with state or federal consultants were listed. To obtain a score, only sources used consistently over a three year period were counted. If a school district used many sources of information, its awareness score would be higher and it would be expected to apply for more forms of federal aid providing it is qualified.

Measuring the needs of a school district is a different matter. As with any organization, a school district has to have financial resources, personnel, materials, equipment, and facilities. Assuming these needs are related solely to its rate of growth from one year to the next, financial needs can be inferred from a measure of per pupil growth. A fairly convenient index can be obtained by subtracting annual average daily attendance of one base year from the following year and dividing by a constant of 30. This gives a measure of need for supplies, facilities, and teachers by classroom assuming no increases caused by fluctuations in the economy. Then, it is hypothesized that as needs for space, services, and teachers increased in a school district, it would attempt to seek more funds from existing federal programs.

If a district has to seek additional funds to meet greater financial needs, there ought to be other operational indicators of resource seeking. Another

of these measures is the number of tax and bond elections it has presented to its voters over some fixed period. It is expected that a district actively seeking federal funds would also be trying to tap local revenues for operation, so a high correlation between tax and bond elections and applying for federal aid programs would be anticipated.

Capability of an organism to respond to a stimulus is related to physical or mental capacities to take some action. Analogous in a school district, its capability to apply for federal aid relates to its manpower. Capability can be measured by the number of persons in the district who have either part-time or full-time responsibility for writing federal applications. Full-time project writers would be expected to make more applications for federal aids than part-time project writers. Another variable which may influence a federal aid application is conflict. An early study of community conflict by Coleman indicated that community conflict seems to get more general and disruptive to the community as it progresses. Following this motion, several doctoral studies of school-community conflict tended to substantiate the finding. Kelly[9] studied conflict in Berkeley, California where he was able to trace and document how conflict took more and more time away from the governance of the Berkeley schools and resulted in a permanent split in the community. Konrad[10] demonstrated that conflict between the school professionals and the school board can block and disrupt the functioning of other subsystems. All the research points out that conflict or wide and open disagreement in a school district adversely affect school operations. When James[11] tried to draw the information on school conflict together, he suggested that broken contracts of superintendents or a high turnover among the school board, the superintendency, or teachers pointed to deep-seated conflict. If an inordinately high proportion of board members, superintendents, or teachers leave their jobs, it may be assumed that some conflict exists.

If high turnover in these positions adversely affects district operations, then federal aid applications should also be affected and reduced.

DESIGN OF THE STUDY

To test whether school district awareness, needs, capability, or conflict, the total population (N of 9) of elementary school districts of one northern California County was defined as a sample. Information on the operational measures of the organismic constructs was obtained from fiscal reports of the California Teachers Association[12] and interviews with chief school officers and school board members. Access to the public records of Title I of ESEA was provided through the courtesy of the finance unit of the Office of Compensatory Education in Sacramento, California. *

AWARENESS OF FEDERAL AID

In the study, it was hypothesized that a school district that was more aware of federal aid information would also be more likely to make applications for federal aid. Interviews with superintendents and project writers in the sample districts provided the number of sources of information used consistently over a three-year period. If a district used 1-4 sources of information, it was identified as a low awareness district, while a district using 4-8 sources was identified as a high awareness district.

To measure federal aid applications, seven forms of federal aid were studied. Those included were: The Elementary and Secondary Education Act, Titles I, II, and III; the impacted areas aid under Public Law 874 and Public Law 815; and the National Defense Education Act, Titles III and V. A district qualified

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for and applying for 4-5 of those federal enactments was classified as a high responding district. If the district was qualified for more forms of federal aid, but only applied for 1-2 forms, it was classed as low responding. Table 1 shows the correlation between school district awareness and its applications for federal aid. Note that one of the nine sample districts was omitted because it did not qualify for either ESEA Title I or PL 874 and PL 815.

TABLE I

School District Awareness and Response to Federal Aid

Awareness	Federal Aid Response	
	High (4-5 forms)	Low (2 or fewer)
High (5-8 forms)	4	2
Low (1-4 forms)	0	2

*Chi - square value of 2.00 significant at the .20 level

Using a chi-square formula to determine the degree of relatedness between the two variables, the results showed that the correlation was not significant at the critical .05 level; however, with a .20 level of significance, the probability of predicting federal aid responses from school district awareness would be correct in four out of five cases. Because of this fairly strong correlation, further analysis of the relation of awareness to other variables seemed profitable, so awareness was investigated as a function of the speed that a district applied for Title I of ESEA. The basic question in the added analyses is: did a high awareness district make applications for federal aid faster than a low awareness district. Title I of ESEA was chosen to study the relation because it was a relatively new form of federal aid, and the time for applying could be obtained from current state records. Time consumed in applying was derived by assuming

that all the sample districts received formal notification of the availability of Title I funds on September 15, 1965. Speed of applying was calculated by finding the difference between that date of formal notification and the date that the Title I application was received from the school districts in the Office of Compensatory Education in Sacramento, California. A calendar year of 365 days is used and the measure of awareness stayed the same. Table 2 shows the rank ordering of eight sample districts in awareness and response speed. Two districts fully qualified under Title I did not apply in the first year; therefore they were assigned a speed of 365 days representing a delay of one full year. Spearman's rho was used to determine the degree of relatedness because greater power could be used when chronological time is used as a measure. The rho correlation reached .66 which was significant at the critical .05 level for n's of eight. Awareness of the school district is related to how fast the sample districts applied for Title I of ESEA. The high correlation does not imply causality, but it could be used to predict which among the sample districts would be first to apply for a new form of federal aid.

Table 2
School District Awareness and Speed
of Applying for Title I of ESEA in 1965

District	Awareness		Speed of Applying	
	No. of Forms	Rank	No. of Days	Rank
A	8	1	117	4
B	7	2	151	6
C	6	4	96	2
D	6	4	74	1
E	6	4	131	5
F	4	6.5	365	7.5
G	4	6.5	365	7.5
H	2	8	105	3

rho is .66 significant at the .05 level

FINANCIAL NEEDS OF A DISTRICT

The money needs of a school district were hypothesized to be directly related to the rate of growth in terms of classroom increase per year. If a school district was rapidly growing, it first would seek more federal funds through existing federal aid programs, and it would also make more attempts at obtaining local funds through more frequent bond and tax elections. This latter fund-seeking action at the local level could also predict the fund seeking through federal aid applications.

Growth rate of the sample districts was obtained for 1967-68 by subtracting the average daily attendance from the previous year then dividing by a constant 30. The change in enrollment among nine sample districts was from a decrease of 6.5 to a growth of 10.0 classrooms per year. Median growth rate for the sample was .7 classrooms per year. Table 3 shows the comparison of classroom growth and federal aid response. The chi square statistic showed no relation between the two variables. Apparently fiscal needs measured by classroom growth was not related to the federal aid responses of the sample districts.

Results of Table 4 examining the local fund seeking efforts and federal aid applications were somewhat more positive, but still not significant.

TABLE 3
Classroom Growth and Response to Federal Aid 1967-1968*

Growth in Classrooms	Response to Federal Aid	
	High (4-5 forms)	Low (2 or fewer)
Above Median	1	3
Below Median	1	2

*Chi-square of .03 significant at .90 level

The chi-square ratio comparing the two variables reached a .20 level of significance. Although the variables were not significantly related in a statistical sense, they were positively related, and it permits a prediction of federal aid applications by using the districts local bond and tax election efforts. The relation is positive enough to yield correct predictions of federal aid applications about 80 percent of the time. However, it is not an infallible predictor of federal aid applications, but such a positive finding should encourage more research efforts to find more local fund seeking variables that are better indicators of federal aid applications.

CAPABILITY OF A DISTRICT

Earlier in the paper, the school districts capability to apply for federal aid was defined as the number of project writers available to write applications. Three characteristics of these project writers were examined as part of the study, the number of full-time or part-time project writers, their educational levels, and their project writing experience. Of the three comparisons to federal aid applications, only the number of full-time or part-time project writers proved to be a good predictor of federal aid applications. Educational levels and experience in project writing among the project writers were approximately equal. Project writers usually possessed a master's degree plus additional college credits, and most had four or more years of writing applications for federal aid programs.

School districts with one or more full-time project writers did apply for more forms of federal aid than those with only part-time project writers. Table 5 shows the relation between having full-time or part-time project writers and applying for federal aid. The chi-square ratio reached a level beyond the

TABLE 4
Tax and Bond Election Attempts and Response to Federal Aid, 1965-1968*

Tax or Bond Elections Held	Response to Federal Aid	
	High (4-5 form)	Low (2 or fewer)
School Districts Holding Bond or Tax Elections	2	1
School Districts Not Holding Bond or Tax Elections	1	5

*Chi-square value of 2.2 significant at the .20 level.

critical value for the study, and capability of the school district is a significant predictor of federal aid applications. A sample district with full-time project writers definitely applied for more forms of federal aid than those with only part-time personnel doing the project writing. In using this predictor among elementary districts, the accuracy would be close to 98 percent.

TABLE 5
School District Capability and Response to Federal Aid, 1965-1968*

Employment of a Project Writer	Response to Federal Aid	
	High (4-5 forms)	Low (2 or fewer)
Districts with one or more full-time project writers	3	0
Districts with part-time project writers	1	5

*Chi-square value of 5.6 significant at the .02 level

SCHOOL DISTRICT CONFLICT

Previous studies in school administration suggested that conflict within a school district can interfere with its operation. It is hypothesized that conflict defined as turnover among board members, the superintendents, or teachers in the sample districts negatively affects federal aid applications. Therefore, a district with high turnover of personnel in these positions would make fewer applications for federal aid, while the opposite would hold for a district with low turnover. It would make more applications for federal aid.

Turnover among board members was counted if board members did not continue in their elected positions because they were either transferred out of the district, defeated in a regular election, or chose not to run for re-election. Turnover in the sample districts was calculated for 1965-1968 and the mean turnover rate was correlated with district participation in federal aid. Table 6 shows the frequencies of the board turnover and federal aid response. The mean turnover rate among board members in the nine districts was 13 percent. Although the chi-square value did not reach the .05 level, it did show that high board member turnover was positively related to federal aid applications. High turnover occurred in districts that participated in fewer forms of federal aid, and school board conflict could correctly predict federal aid response in about 80 percent of the cases, but it is not recommended.

TABLE 6

School Board Turnover and Response to Federal Aid, 1965-1968*

Board Member Turnover	Federal Aid Response	
	High (4-5 forms)	Low (2 or fewer)
High (above mean)	0	3
Low (below mean)	3	3

*Chi-square of 2.2 significant at .20 level

Table 7 shows that turnover in the superintendency measured by broken or non-renewed contracts proved to be more significantly related to responses to federal aid than school board conflict. Because the correlation was comparing non-voluntary resignations to federal aid applications, two districts with superintendents who voluntarily resigned were omitted from the analysis. One of these had a superintendent who resigned because of deteriorating health, and the other superintendent had his contract renewed, but choose not to accept it. The chi-square value for comparing superintendents was significant far beyond the critical level, but in a positive direction instead of negative as hypothesized. Districts with a high turnover in the superintendency made more applications for federal aid instead of fewer. Again, this relation indicated that the disputed resignation of the superintendent could be used to identify a high responding district, and it would be correct about 99 percent of the time. However, there is an error in assuming a direct causation. Until more information is available, on this relation between superintendent turnover and federal aid applications, any attempt to explain the association would be presumptive.

TABLE 7
Superintendent Turnover and Response to Federal Aid, 1965-1968*

Superintendent Turnover	Response to Federal Aid	
	High (4-5 forms)	Low (2 or fewer)
Disputed Resignation	2	1
Continued in Position	0	4

*Chi-square value of 7.3 significant at the .01 level.

When the turnover among teachers was studied, it proved to be unrelated to whether the sample districts applied for federal aid. Table 8 shows the results of comparing job turnover among teachers and applications for federal aid. Of the nine sample school districts, one was omitted from the analysis because it had incomplete information on teachers. The mean turnover among the teachers was 12 percent over three years. The chi-square value indicating the relation between the variables showed that any job changing done by teachers did not at all influence applications for federal aid. Apparently, the actions of teacher personnel in these districts does not have any influence on the school district decisions about federal aid.

PREDICTIONS ABOUT FEDERAL AID

In essence, this study has discovered a preliminary theoretical frame to predict school organization applications for federal aid. Although generalizability of the findings is naturally limited by the characteristics of the sample school districts, some very powerful predictors were found. Table 9 shows these predictors among the four theoretical constructs of the study.

TABLE 8
Teacher Turnover and Response to Federal Aid, 1965-1968*

Teacher Turnover	Response to Federal Aid	
	High (4-5 forms)	Low (2 or fewer)
High (above mean)	1	4
Low (below mean)	0	3

*Chi - square value of .64 significant at .50 level.

One critically important variable that predicts federal aid responses is school district capability. Appointment of a full time project director or project writer confidently identifies a school district that will make maximum efforts to apply for all the federal aid to which it is qualified. This is true for the elementary districts in the sample and it seems to support what earlier studies have found. All of these studies, however, have been correlational studies. At the present time, this fact remains a caveat to overgeneralizing this particular concept. In addition, there is still the resolution of the findings in a recent case study[13] that showed that capability in small, rural school districts did not predict federal participation. Further study undoubtedly will reveal that differences in the research design accounts for these opposite findings.

Another highly significant predictor of a high number of applications for federal aid is superintendent conflict or the disputed resignation of the chief school officer. A school district condition where a superintendent had been fired from his post in the last three years predicted that the district would be applying for more federal aid programs. The prediction is almost infallible. In a statistical sense, such a relation between disputed resignation and federal aid applications is difficult to explain. However, the moderate relation between school board conflict and the strong relation between superintendent conflict and applications for federal aid may ultimately show that conflict in a school district's governance subsystem has far reaching consequences on its ability to obtain federal revenues.

TABLE 9
Significant Predictors of Federal Aid Responses Among Awareness, Financial Need, Capability, Conflict Variables of Nine School Districts*

Organizational Variables	Response to Federal Aid
Awareness	N.S.
Financial Need	
Growth	N.S.
Bond and Tax Election Attempts	N.S.
Capability	
Full-Time Project Writers	*
Education Level of Project Writers	N.S.
Project Writing Experience	N.S.
Conflict	
School Board	N.S.
Superintendent	*
Teachers	N.S.

* - Significant at the .05 level or better
N.S. - Not significant

The negative findings about school district awareness are equally important for predicting federal aid applications. It is now stated with reasonable confidence that a school district's efforts to seek information about federal aid does not predict whether that district will make more applications for federal aid. Instead, its value lies in its ability to predict the speed of applications as they will flow to federal and state agencies.

The fact that this study found no relation between a district's financial needs and its efforts to seek funds through federal channels is contradictory to other studies which showed wealthy districts applied more for NDEA. Neither school district growth nor its local efforts to raise moneys is related to its applications for federal aid. The opposite findings of other studies are explained by the research design. The studies of NDEA examined only one form of federal aid. When federal aid is broadened to include NDEA plus impacted areas

laws and ESEA, the bias found in NDEA becomes less distinct. Where district wealth is concerned, there seems to be no differential treatment reflected in federal aid.

New efforts to examine the effectiveness of federal aid programs in reaching school districts have begun to provide constructs that will, with further research, point out useful predictors of districts applying for federal aid. Early research studies do carry implicit warnings about the over-generalizing the findings. The present study is no exception, but theoretical constructs in the study seem to permit predictions with far greater accuracy than before. This justifies these constructs as working hypotheses for studies in states other than California.

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